Segal Design Certificate

The Segal Design Certificate program enables undergraduate students at Northwestern University to develop design knowledge and skills that will give them a competitive edge in their careers. Certificate students apply design thinking in a team-based, cross-disciplinary settings, and identify and solve real-world problems for real clients.

If you have any questions about the design Certificate or wish to set up an advising appointment, please contact one of the certificate advisors.

Students within McCormick: Stacy Benjamin, sbenjamin@northwestern.edu
Students outside McCormick: John Anderson, jca@northwestern.edu

1 TAKE ONE PREREQUISITE COURSE

Select one of the introductory design thinking courses
- DSGN 106-1 Design Thinking and Communication
- DSGN 208 Design Thinking and Doing

2 DECLARE YOUR INTENT TO PURSUE

Complete & submit the Intent to Pursue form to enroll in the Design Certificate program

3 TAKE 3 UNITS OF APPROVED ELECTIVES

Explore a range of design topics or create your own theme. Be sure your electives address the noes below.

- Only two courses can overlap between the Design Certificate and the "major requirements" of your primary BS or BA degree as described in the undergraduate catalog. Outside of the major requirements" portion of your degree, you can have additional overlapping courses.
- Courses must be taken for a grade (not P/N)
- Grades must be "C" or higher for the course to be applied to the Certificate
- Electives must be from the Approved Elective list, or approved by petition (no more than one unit can be by petition)
- At least one elective must be a DSGN course
- At least two electives must be 300 level
- Graduate courses cannot be used toward the Certificate

4 TAKE ONE OF THE REQUIRED DESIGN SEQUENCES

Select one of the two-quarter design sequences to take in your junior or senior year. The two quarters must be back-to-back.
- DSGN 308-1,2 Industrial Design Projects I & II
- DSGN 382-1,2 Service Design Studio I & II (DSGN 395)
- DSGN 384-1,2 Interdisciplinary Design Projects I & II

5 TAKE THE REQUIRED DESIGN PORTFOLIO COURSE

We recommend taking this class after as many design classes as possible, but it is not a requirement to complete the other design courses first.

You must create and present your design portfolio to the Segal design community at the Segal Design Expo as part of the final presentation for the DSGN 370 course.

Your portfolio must include material from **at least three of the courses** used to complete the Design Certificate and demonstrate proficiency in the following areas:

- Design process
- Design analysis
- Prototyping and implementation
- Modern software tools
- Effective communication

6 SUBMIT YOUR PETITION TO RECEIVE

Complete & submit the Petition to Receive form **at least one quarter before you plan to graduate.**

Segal Design Certificate – Approved Electives

Dept	Course	Title
Anthro	212	Global cultures, global inequities
Anthro	389	Ethnographic methods & analysis
Art	225	Intermediate drawing
Art	272	Critical methods for contemporary art
Bus Inst	239	Marketing management
Civ Env	302	Engineering law
Civ Env	327	Finite element methods in mechanics
Civ Env	368	Sustainability: issues & action, near & far
Civ Env	385-1	Architectural engineering and design
Comm St	366	Organizational behavior and innovation
Comm St	392	Global culture & communication
DSGN	220*,221*	Design sketching
DSGN	240*	Intro to solid modeling: Solidworks
DSGN	245*,246*	Intro to CAD: NX I and II
DSGN	253	Managing student -run projects
DSGN	297*	Visual communication
DSGN	297*	Solid modeling: Onshape
DSGN	297*	Advanced solid modeling: Solidworks
DSGN	297*	Rendering: Keyshot
DSGN	305	Human centered service design
DSGN	306	User Experience Design
DSGN	308	Human centered product design
DSGN	320	Introduction to industrial design methods
DSGN	345*	Computer-aided manufacturing: NX
DSGN	346	Design for fabrication: NX
DSGN	348*	Rapid prototyping: NX
DSGN	350	Innovation and invention
DSGN	360	Design competition
DSGN	375	Data as Art
DSGN	380-1,2	Industrial design projects I & II
DSGN	384-1,2	Interdisciplinary design projects I & II
DSGN	386	Manufacturing engineering design

Dept	Course	Title
DSGN	395	Engineering education & outreach
DSGN	395	Designing your life
DSGN	395	Inclusive making
DSGN	395	Bay Area Immersion: Communication design
DSGN	395	Bay Area Immersion: Human centered service design
DSGN	395	Service design studio I &II
DSGN	395	Risk
DSGN	395	Prototyping, materials, & manufacturing
Econ	270	Intro to environmental economics
Econ	326	Economics of developing countries
EECS	330	Human-computer interaction
Eng	205	Intermediate composition
Eng	305	Advanced composition
IEMS	307	Quality improvement by experimental design
IEMS	325	Engineering entrepreneurship
IEMS	326	Economics & finance for engineers
IEMS	342	Organizational behavior
IEMS	343	Project management for engineers
IMC	301	Consumer insight
Mech Eng	333	Mechatronics
Mech Eng	340-2	Computer integrated manufacturing II
Mech Eng	341	Computational methods for engineering design
PoliSci	348	Globalization
PoliSci	349	International environmental politics
Psych	228	Cognitive psychology
Psych	387	Consumer psychology & market research
RTVF	190	Media Construction
SESP	195-1,2	Community engagement
SESP	303	Designing for social change
SESP	372	Methods of observing human behavior
Sociol	202	Social problems
Sociol	212	Environment & society
Theatre	312-1,2	Art of storytelling

Segal Design Certificate – Design Track Descriptions

DSGN 380-1,2	DSGN 382-1,2 (DSGN 395)	DSGN 384-1,2
Industrial Design Projects	**Service Design Studio**	**Interdisciplinary Design Projects**

Students will study and put into practice today's leading design philosophies, including design thinking, user-centric principles of design, and design for manufacturing. The classroom will be transformed into a functioning design studio with an emphasis on industrial design project execution for personal portfolio development.

Topics covered include: concept ideation and sketching, use of discovery research and data visualization, problem framing and prototyping, design for manufacturing, Keyshot rendering, rapid prototyping, and learning to talk about design.

In the service design studio, students will explore a human centered approach to the design of services. Students will explore and apply design thinking to a client sponsored project and synthesize both user and client needs in the design of consumer touchpoints. This may include user experiences, digital interfaces, communication models, or organizational designs.

Coursework will be workshop-based with a majority of team assignments supported by specific individual responsibilities.

Students will work in interdisciplinary teams on one project across both quarters for an external client. The class model is similar to a design firm, and for each project, teams will create a functional design to meet client and user needs. Students are expected to apply discipline-specific knowledge from upper level courses within their major to their projects.

The first quarter emphasizes project research, concept development, advanced topics in design, and professional communication. It culminates in a conceptual design and a design review with external experts. The second quarter focuses on project implementation and continued professional communication.

Winter-Spring

Winter-Spring

Fall-Winter or Winter-Spring

Prerequisites

DSGN 220 and DSGN 240

or DSGN 320

or Instructor approval

Prerequisites

DSGN 106-1

or DSGN 208

Prerequisites

DSGN 106-1

or DSGN 208

* Indicates ½ unit course